



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/047,216

01/14/2002

Arihiro Takeda

1117.66107

5771

7590

08/24/2004

Patrick G. Burns, Esq.
GREER, BURNS & CRAIN, LTD.
Suite 2500
300 South Wacker Dr.
Chicago, IL 60606

EXAMINER

DUONG, THOI V

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,216

Applicant(s)

TAKEDA ET AL.

Examiner

Thoi V Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-12 and 33 ~~is/are~~ pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-12 and 33 ~~is/are~~ rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0504.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the Amendment filed May 24, 2004.

Accordingly, claims 8-10 and 33 were amended, and claims 1-7 and 13-32 were cancelled. Currently, claims 8-12 and 33 are pending in this application.

Response to Arguments

2. Applicant's arguments with respect to claims 8-12 and 33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claims 9 and 11 are objected to because of the following informalities: claims 9 and 10 recite the limitation "said orientation control element" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Art Unit: 2871

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 8-12 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeda et al. (Pub. No. US 2003/0202146 A1).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Re claim 8, as shown in Figs. 24 and 25, Takeda et al. discloses a liquid crystal display device comprising:

- a first substrate 1 having thereon a pixel electrode 30 and an active element 6;
- a second substrate 2 having thereon an opposed electrode 15; and
- a liquid crystal layer 18 interposed between said first and second substrates with said pixel and opposed electrodes facing each other.

Further, as shown in Fig. 30, Takeda et al. discloses a first orientation control element formed, which is an intersecting portion of slits 38a and 38b formed on the pixel electrode 38, locally provided near an edge of the pixel electrode on said first substrate and giving an orientation regulating force to liquid crystal molecules L near the edge of said pixel electrode on said first substrate, the orientation regulating force counteracting an orientation regulating force given by the edge of said pixel electrode to said liquid

Art Unit: 2871

crystal molecules of said liquid crystal layer, so that said liquid crystal molecules L including those near said edge are oriented in a substantially the same direction, when difference in orientation direction among said the liquid crystal molecules adjacent to each other near said edge is caused by the orientation regulating force given to the liquid crystal molecules of said liquid crystal layer by said edge of said pixel electrode when voltage is being applied between said pixel and opposed electrodes (page 13, paragraph 233); and

a second orientation control element, slits 38a and 38b, giving an orientation regulating force that orients the liquid crystal molecules of said liquid crystal layer in a predetermined direction different from the directions of the orientation regulating force given by the edge of the pixel electrode to the liquid crystal molecules of said liquid crystal layer and the orientation regulating force given by said first orientation control element (see Fig. 30 where the liquid crystal molecules in the slits 38a and 38b are in different directions with the liquid crystal molecules along the portion of the left edge of the pixel electrode 38).

Re claim 9, said second orientation control element is constituted by a plurality of fine slits 38a, 38b formed locally in said pixel electrode 38 in an oblique direction relative to an extending direction of said edge, and said fine slits locally give to the liquid crystal molecules of said liquid crystal layer an orientation regulating force in a direction parallel to said fine slits (see Fig. 30 where the liquid crystal molecules are in a direction parallel to the slits 38a and 38b),

Art Unit: 2871

wherein, re claim 10, the slits located close to the edge of the pixel electrode is different in shape from the others formed inside the pixel electrode.

Re claim 11, since the first orientation control element is the intersecting portion of the slits 38a and 38b, this first orientation control element is a hollow formed in a part other than said pixel electrode.

Re claim 12, a dielectric anisotropy of said liquid crystal molecules of said liquid crystal layer is negative (page 10, paragraph 172).

Finally, re claim 33, as shown in Fig. 30, in addition to the liquid crystal display device shown above, Takeda et al. also discloses a liquid crystal orientation method of liquid crystal molecules of a liquid crystal layer in the liquid crystal display device, said method comprising the step of:

giving an orientation regulating force (created by an intersecting portion of slits 38a and 38b) to said liquid crystal molecules near an edge of said pixel electrode on said first substrate to counteract an orientation regulating force given by the edge of said pixel electrode to said liquid crystal molecules L of said liquid crystal layer so that said liquid crystal molecules including those near said edge are oriented in substantially the same direction (perpendicular to the edge of the pixel electrode), when difference in orientation direction among said liquid crystal molecules adjacent to each other near said edge is caused by said orientation regulating force given to said liquid crystal molecules of said liquid crystal layer due to said edge of said pixel electrode when voltage is being applied between said pixel and opposed electrodes (page 13, paragraph 233); and

Art Unit: 2871

giving an orientation regulating force (created by slits 38a and 38b) that orients the liquid crystal molecules of said liquid crystal layer in a predetermined direction different from the directions of the orientation regulating force given by said edge of said pixel electrode to the liquid crystal molecules of said liquid crystal layer and the orientation regulating force given to said liquid crystal molecules near the edge of said pixel electrode (see Fig. 30 where the liquid crystal molecules in the slits 38a and 38b are in different directions with the liquid crystal molecules along the portion of the left edge of the pixel electrode 38).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2871

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong



08/21/2004



DUNG T. NGUYEN
PRIMARY EXAMINE